

REMARKS

We have amended claims 1 and 27 to more particularly point out and distinctly claim the invention.

We acknowledge the examiner's indication that claims 15-22 are allowable, and that claims 28-35 are allowed.

The examiner rejected claims 1-7, 9-14, 23-27, and 37-38 under 35 U.S.C. 102(e) as being anticipated by Patent Application US 2004/0013384 A1 to Parker et al.

Among other things, the examiner argues that Parker discloses "an array of guided-wave cavities containing dielectric rods 11, extending transversely from the dielectric core 10 into the first cladding 13" as recited in claims 1 and 27. We note, however that the structure of Parker's dielectric rods are substantially different from the guided wave cavities as required by the claims. The guided wave cavities of the claims begin at the boundary of the dielectric core. In order to make this point more clear, we have amended claims 1 and 27 to recite this explicitly. In Parker's invention, on the other hand, the dielectric rods are located "in the core" [emphasis added] (abstract). This fact is also apparent from Parker's Fig. 2, the detailed description, and other sections of the disclosure. Specifically, Parker refers to "an array of sub-regions within the core layer having a second refractive index n_{rods} " [emphasis added] (paragraph 0004), and points out that "[t]he position of the rods 11 is then defined by etching into the core 10" [emphasis added] (paragraph 0043). As can be seen, the elements recited in the claims and the ones disclosed by Parker are fundamentally different.

Moreover, we also note that Parker's rod features are not guided-wave cavities as required by the claims and as that term would be understood by a person of ordinary skill in the art. More specifically, Parker's rod features do not have "one or more transmission modes that during operation couple to the one or more guided-wave modes of the guided-wave structure". Indeed, Parker does not want any of his rod features to have transmission modes that couple to the energy in his waveguide. For example in reviewing prior art, Parker notes that "it has been found that devices of this type suffer from large losses, mainly due to the escape of light from the waveguide in a vertical direction." (Para. 0003). Parker then continues to explain that in his invention:

...more light is coupled back into the core material at the rod/core interface.
Additionally, as the refractive index of the sub-regions is higher than that of the buffer layer and cladding layers, coupling of light into the buffer and cladding layers is reduced.
Thus the present invention provides greater vertical confinement of light within the waveguide [emphasis added] (paragraph 0010)

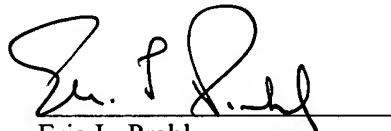
So, not only does Parker's structure not have guided-wave cavities of the type recited in the present claims, he actually teaches away from designing his rod features to have the features of a guided-wave cavity as recited in the present claims.

For the reasons stated above, we believe that the claims are in condition for allowance and therefore ask the Examiner to allow them to issue.

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Respectfully submitted,

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